the operation of choledochotomy should be performed with the greatest caution and the least possible disturbance to structure. We have now learned, however, that suture of the ducts is not essential to their restoration of function. When slit up they heal as readily as does the urethra after the operation of perineal urethrotomy. It is our custom nowadays to open the ducts fearlessly when that is necessary for the removal of stones, and to drain them usually without suture when such drainage readily can be applied.

It was an appreciation of the practicability of such drainage that led to the adoption of the so-called hepatic drainage — commonly associated with the name of Kehr, though Richardson employed it so long ago as 1888; and other surgeons frequently have adopted the same measure. The object of hepatic drainage is to withdraw all the bile at once to the surface leaving dry the common duct so far as possible, and to encourage the expulsion by drainage of stones possibly lodged in the hepatic duct or its radicals.

Various incisions for hepatic drainage have been employed; but as long as the opening in the duct is large enough comfortably to admit the drainage tube the results are almost uniformly satisfactory, no matter where the duct be opened. Kehr incises the common duct and pushes his tube up two inches into the hepatic. Other surgeons slit up the cystic and common ducts and through this large orifice insert a tube which in either case should be lightly stitched in with catgut.

This drainage of the ducts serves to carry off infectious material. That is a great object. Cholangitis, in varying grades, is nearly always present, especially if there be stones in the ducts, and drainage in such cases is as essential as is drainage for pleural empyema.

From what has been said it must be apparent that the removal of all stones, when possible, is imperative. Stones in the gall bladder and cystic duct may be reached readily and always. Stones in the hepatic duct may be encouraged to escape through long continued and effective hepatic drainage. Stones in the common duct and ampulla may usually be removed at a primary operation, the patient's strength permitting. However, sometimes, owing to the patient's weakness or to extensive adhesions or to the presence of malignant disease, deep dissection of the common duct may be impossible. Efficient and permanent biliary drainage is demanded, however, even in such cases, and for this the operations of cholecysenterostomy and choledochenterostomy were devised.

Richardson, in an article already quoted, urges the propriety of removing gallstones whenever discovered in the course of abdominal operations undertaken for lesions other than those of the bile passages. I believe his argument to be cogent and final; for, as I have frequently pointed out, gallstones, even though quiescent, may, at any time, give rise to trouble; and their removal through cholecystostomy with a small stab wound and drainage does not add materially to the risks of an abdominal section.

From the foregoing paragraphs it must be apparent that I deem drainage of the deep field an essential in all operations on the bile passages. I have shown that an infection always is present, even when symptoms are quiescent; that infection demands drainage. I do not recognize as proper the maneuver, sometimes undertaken, of removing by cholecystectomy an apparently innocuous bag of stones, discovered in the course of some other operation, *e. g.*, appendectomy, unless, at the same time, drainage be established. Such a cholecystectomy occasionally has been done, and the abdominal wound has been closed tightly without resulting damage; but we must recognize this result as a piece of undeserved good fortune to the surgeon, for every operator of experience knows that the ligature on the cystic duct does not always hold and that leakage sometimes occurs with a resulting general infection of the peritoneum. If you remove the gall bladder you must drain the stump.

I hope that enough has been said to demonstrate without cavil the soundness of the three cardinal rules with which I began this consideration of the manner of operating:

(1) Removes stones; for if left behind they are very sure to cause subsequent disturbance, and we know conversely that after the thorough removal of stones their recurrence is almost unknown.

(2) Remove so far as possible all disorganized, degenerated and permanently crippled tissue; for we have seen how such tissue, when left behind, may become the nidus for subsequent inflammation, stone formation and a return to the invalid condition.

(3) Drain, for without drainage we have no certainty of the removal of infectious material.

PTOSIS OF THE ABDOMINAL ORGANS WITH SPECIAL REFERENCE TO THE KIDNEY.*

IMPORTANCE OF CONSIDERING PTOSIS OF OTHER ORGANS IN THE TREATMENT OF THE KIDNEY.

BY M. P. SMITHWICK, M.D., BOSTON.

SPLANCHNOPTOSIS is a condition with which all present are familiar. Some of the suggested causes are anatomical peculiarities, constipation, rapid loss of flesh, frequent pregnancies and errors in dress. Of these the first, second and fifth were present in a considerable percentage of my cases, the fourth in a few, loss of weight (rarely rapid) in a large percentage. In my experience the first three may be considered results of the real cause of ptosis, and each of the five a contributing cause or coincidence. Often we find marked ptosis of kidneys and viscera in young women who have never been pregnant, never lost flesh excessively or rapidly and never worn corsets. They quite uniformly con-

* The following papers were read at a meeting of the Boston Medical Library in conjunction with the Suffolk District Branch of The Massachusetts Medical Society, Surgical Section, Nov. 30, 1904.

form to a peculiar build described by different observers. The characteristics noted are, especially, narrow chest with diminution of the dorso-lumbar curve. Such cases seem to substantiate Stiller's well-known view that enteroptosis indicates a general disorder of nutrition or development. The prevailing characteristic is weakness. To one observer it is the neurasthenic type, to another the consumptive type. With some evidence of spinal weakness as excessive upper dorsal curve or scoliosis, or with weak foot-arches, it is of orthopedic interest; with deficient dorso-lumbar curve it suggests a cause of ptosis. Whether our attention is attracted by the high-arched palate, by the flabby abdominal muscles, by the unreliable physical or nervous vigor, the fundamental characteristic is weakness — nervous even more than physical, deficient nervous reserve power and infinite capacity for its dissipation.

To one familiar with this class of cases there is striking uniformity in the symptom complex; in fact its uniformity is even more noticeable than the endless variation of detail. Those who are born neurasthenic and from birth frequently overdraw the slender nervous reserve, are likely in early life to show the miserable physique already described. These congenital neurasthenics may show tendency to ptosis of kidneys and viscera at the earliest age, or are likely to do so later unless so fortunate as to accumulate permanent fat and avoid overdrawing their reserve nervous energy. Rapid emaciation tends to produce ptosis, but especially when the cause is nervous exhaustion.

The symptoms of a patient with nephroptosis and gastroptosis may be the same as those of one with simply the atonic gastro-intestinal tract so characteristic of neurasthenics. Nephropexy and gastropexy in the former, and gastro-enterostomy in the latter, or in both, may not alter the symptoms. The fundamental fault is nervous exhaustibility. This was the prevailing condition in the cases which have come under my observation. The chief need for prophylaxis or cure is a permanent and abundant reserve of nervous energy. It should be accumulated by the previous generation. This nervous reserve, without which other desirable conditions, as increase of permanent fat and of intra-abdominal pressure, may be impossible, must be considered of primary importance.

To fortify my impressions as to the frequency with which nephroptosis is associated with other ptoses I reviewed my records of private cases, including all with ptosis of either kidney and excluding all with ptosis of neither kidney. This compelled me to exclude several cases of marked gastroptosis and a few with marked hepaptosis. The minimum degree of nephroptosis for inclusion in my list was that enabling the kidney to be definitely grasped (not touched) during inspiration. With these restrictions I found 68 cases. The right kidney was down in all, or 100%, the left kidney in 20%, the stomach in 62% (and, of course, the colon in an equal number), the liver in 7%. Thirty-four of the 57 females had pelvic examination and there was a marked ptosis of the uterus in some direction in 80%. The urine showed no serious disturbance of the renal function in any case. In no case did a kidney seem to interfere with other organs by pressure. In one case, with marked ptosis of the right and moderate ptosis of the left kidney, there was dragging pain referred to the right kidney, and nephropexy was advised.

It may be claimed that my list, many of which represent the minimum degrees of nephroptosis, are less marked cases than those to be reported this evening. I reply: First, my part is to point out the association of ptoses; second, several cases with marked ptosis of both kidneys showed no symptoms referable to this condition; third, a very neurasthenic man of my series, with the minimum degree of ptosis of the right kidney, was recently examined by a prominent New York surgeon and was told that all his nervous symptoms were due to floating kidney; that nephropexy would cure, was the only cure, and should be done at once. It may be objected that the neurasthenic symptoms to which I refer are typical of nephroptosis. I reply then, that I am unable to distinguish symptoms due to this condition.

Ever since I began practice I have been on the watch for cases of colic due to floating kidney. One case, with rather more than the minimum degree of ptosis of right kidney and ptosis of stomach, was under observation six years. In each of several attacks observed the kidney was very tender. There was severe pain in its region with vomiting. In every attack there was history of indiscretion in diet. In the last, cabbage and veal steak eaten ten hours previously were vomited undigested. Gallstone was supposed to be the cause from the first and exploration urged, but kidney and stomach couldn't be excluded until two big gallstones were lodged in the common duct and found at operation.

Another similar case, with more or less constant discomfort in the kidney region, was a patient of a well-known New York surgeon. He pronounced her symptoms due to liver or floating kidney and had her wear a belt for the latter. I saw her in a typical attack of biliary colic and advised her to allow him to operate. Both patients complained of atonic dyspeptic symptoms. Another similar case has refused to have gallstone demonstrated by operation.

I trust that each of us will carry away from this meeting a clear-cut picture of the indications for surgical interference in ptosis of the kidney.

TREATMENT OF PTOSIS OF ABDOMINAL ORGANS BY ABDOMINAL SUPPORTERS.

BY WILLIAM H. SMITH, M.D., BOSTON.

When Dr. Codman asked me some three weeks ago to report upon the treatment of ptosis of abdominal organs by abdominal supporters, I replied, "That the time was so short that it was doubtful if replies could be received from a sufficient number of patients, to make the paper at all

complete." I have, however, heard from many of them and have been able through the courtesy of Dr. F. C. Shattuck to add some of his cases to my own.

My experience is limited to two kinds of abdominal supporters, in two classes of cases; the first the ordinary unpadded abdominal band, the second, the accurately fitted, padded, corset-like belt. The two classes of cases treated have been simple nephroptosis, with or without Dietl's crises, and nephroptosis with gastroptosis. The ordinary unpadded abdominal supporter has, in my experience, proven of little value except in cases of marked diastasis of the recti muscles; with the corset-like, padded belt my experience has been greater, and from the satisfactory result in two cases I was led to study its usefulness further.

In the fall of 1900, I was asked to see a young woman, a nurse, who, for several months, had suffered from severe attacks of pain in the region of the right kidney. Returning from her vacation, having gained considerable weight, she took charge of a patient, seriously ill, and through work and worry lost weight rapidly; one morning while on duty she was seized with severe pain in the epigastric region, was nauseated, vomited and felt faint. Upon questioning her it was found that this attack differed from the others only in degree, it was more severe and lasted longer. Her previous attacks lasted usually only a short time, would sometimes be relieved by lying down although soreness would persist for several days. Careful physical examination showed nothing abnormal at first; there was no rise of pulse or temperature, the blood showed no leucocytosis, the urine was negative. While examining her two days after the attack, the right kidney was found easily palpable, painful; since these attacks had been recurring for several months and were interfering with her work, I advised operation but this was refused. She was then fitted with an abdominal pad, held in place by surgeon's plaster which she wore for some time with a moderate degree of comfort. It was, however, bulky and troublesome.

In February, 1901, a young Swedish woman of twenty-three came to see me; she had had for four years attacks of pain always referred to the right of the epigastrium associated with nausea and vomiting; for several weeks these had increased in frequency and severity. She had tried various methods of treatment during these four years without relief. Her attacks came on mostly while she was at work, would last for several hours, would occasionally be relieved by vomiting, although the soreness in the kidney region would persist. The similarity of the symptoms with those of the nurse attracted my attention and floating kidney was considered possible. At first physical examination was negative. The kidney could not be felt with the patient on her back, on the right or left side, or while standing. The urine examination was negative, the blood was without leucocytosis, there was no fever nor rapid pulse. Within a few days opportunity for examining the patient during an attack occurred and the right kidney was easily felt, so painful upon palpation that she exclaimed, "There is where all my pain has been." As in case number one, entrance to hospital for operation was advised, but refused. On account of the difficulty of putting on the pad advised in the first case, the possibility of some kind of a belt was investigated and she was accurately fitted with a padded, corset-like belt, to be put on with the hips raised in the morning before getting up. The perineal straps were fastened first, the lowest straps next and so on, the object being, not to attempt to pad the kidney itself, but to hold the intestines up against the liver and diaphragm, thus hoping to prevent the kidney from dropping. She was lost sight of, but several months later the nurse who had fitted the belt stated that the patient had returned to have some new straps as she had worn one set out. She called at my office in response to a note and said that she had had no attacks of pain since wearing the belt. She had at times discomfort, but thought but little about it. She has worn the belt continuously since 1901, and during this time has been strong and well. This belt proved so satisfactory that a similar one was made to replace the pad used in the first case. She wore the belt for a year, had no attacks of pain while wearing the belt, gained greatly in weight and has since been well.

In May, 1902, at the request of Dr. Burns of Plymouth, a young woman of twenty-two was examined at the Out-Patient Department of the Massachusetts General Hospital during my service, for a painful tumor of the abdomen. At first no tumor could be felt, and it was only with the patient in the upright position that the right kidney descended and was found at the umbilicus. She had no attacks of pain, but felt more or less constant pain in the region of the right kidney, when on her feet. Her pain antedated her knowledge of the tumor; careful questioning ruled out neuroses and she was advised to have a padded belt fitted, the method of putting it on was carefully explained as well as the reason for it. Dr. Burns writes me that she was greatly relieved for several months. Since then she has moved from Plymouth and whether the result was permanent or not is not known.

A fourth belt was made for a patient who had been wearing a pad for a painful right kidney; she had seen the belt of the first patient and wished to replace her pad with one similar. She had never had painful attacks, but pain and soreness in the region of the right kidney which was easily palpable. She wore the belt for nearly a year, but as it appeared to cause constipation, at one time there being partial obstruction of the bowel, she was told to leave it off. The amount of benefit in this case was practically *nil*, indeed, I think it did more harm than good; she was markedly neurotic and the daily thought about her dislocated kidney at the time of applying the belt did her no good. The reason the belt was advised in her case was because the starting point

of her various neuroses seemed to date from her painful kidney. Since then I have not advised a belt for that class of patient.

In May, 1903, a belt was advised for a woman of thirty-three, who had had soreness in the region of the right kidney for three years. She had never had Dietl's crises, but after standing or walking for any length of time her kidney became sore and the pain would persist so long after she went to bed that it interfered with her sleep. Her right kidney was well below the costal border and freely movable, apparently not enlarged. In reply to a letter asking her present condition she writes that she has worn the belt all the time, removing it only at night; the belt has greatly benefited her, but is at present worn out and she has written for another one.

Two other patients have been ordered belts, one a patient seen by Dr. A. T. Cabot and Dr. Shattuck. In this case the diagnosis lay between movable kidney with Dietl's crises or disease of the gall bladder; the second patient had recurring attacks of pain in the right kidney region, her kidney was easily palpable and tender, she was advised to wear a belt, but as her pain was thought by the surgeon who saw her to be due to the appendix she was operated upon; her attacks followed the operation shortly and she returned and was fitted to a belt. A brief report from the first patient, at present in Switzerland, states that her health has not improved since wearing the belt; the second patient is in New Brunswick and has not been heard from. In none of these patients was there any notable degree of gastroptosis, and the results would lead me to still further trial of the padded belt, in similar selected cases.

A report has been received from four patients where, in addition to nephroptosis, gastroptosis was present; one used the simple abdominal band, three the padded belt. The first patient, a woman of twenty, was fitted with the ordinary abdominal support at the Massachusetts General Hospital in the spring of 1903; in her case there was pain in the region of the right kidney running through to the back, no Dietl's crises. The kidney could be felt wholly below the costal border, the lower border of the stomach being two inches below the umbilicus. She wore the belt two weeks, but it made her nervous and increased her pain; this is not to be wondered at since she put the belt on after getting up, and so padded her kidney tightly, while it was still out of position. This case illustrates one of the difficulties in the use of the belt, where the co-operation of the patient cannot be secured.

The difficulty of interpreting pain in the region of the right kidney is well illustrated by the next case which wore a padded belt. A woman of thirty-six who had had pain for some months in the right kidney region, the pain running through to the back, not occurring in attacks, was examined in June, 1903, at the Massachusetts General Hospital in the Out-Patient Department; the right kidney descended as low as the anterior superior spine of the ilium, the upper border being near the umbilicus, the lower border of the stomach one and one-half inches below the umbilicus; a belt was advised and fitted to this patient, but it increased her pain so that she wore it only a few weeks. Two months later she was operated upon and her right kidney was found floating, and her appendix bent and adherent. She does not state in what the operation consisted, but says that she has since been better. One other patient with gastroptosis and nephroptosis received but little benefit from the padded belt, while the fourth states that she could not do without it.

In simple gastroptosis I have had no experience with belts alone. In five cases they have been used in addition to other well recognized methods of treatment; four wore the padded belts, one the simple abdominal supporter. Three have ordered new padded belts, one can wear hers only at times, as the distention of the stomach with gas causes so much pain that she has to remove the belt. I presume this is due to the tightness with which these padded belts are fitted. The patient with the simple abdominal band has not been under observation a sufficient length of time to warrant any statement as to the efficacy of the belt in her case. In conclusion I would state that while the number of cases is too small to warrant any deductions being drawn, my opinion in regard to the use of belts is briefly this: Without the intelligent co-operation of both patient and physician, but little benefit will follow the use of abdominal supporters; where this co-operation can be secured and a properly fitted belt is made and properly worn, I believe relief is to be obtained in certain cases, especially of nephroptosis with Dietl's crises. In some cases I believe this relief will be permanent.

THE ACTUAL RESULTS AT THE MASSACHUSETTS GENERAL HOSPITAL, FOLLOWING OPERATIVE TREATMENT.

BY F. G. BALCH, M.D., AND J. R. TORBERT, M.D., BOSTON.

Since Dr. Torbert, who has done most of the work in getting up the statistics of the results of operation on movable kidney at the Massachusetts General Hospital, is not able to be here to-night it devolves on me to explain the tables he has made.

We have taken only the results of cases operated on between 1890 and 1904. We sent out ninety letters with a printed form enclosed, and a stamped and addressed envelope. Twenty-six replied and twenty-five letters were returned unopened. This leaves rather a large percentage that must have gone into the waste-paper basket. Dr. A. T. Cabot looked up this same subject in 1902 and he kindly let me look over the replies he had received to a letter which he had sent out. Among his list I found eighteen who had not replied to my letter. He had also reports of two cases which had apparently been overlooked in our search of the records. This gives a total of 92 cases. Of these 92 cases we now have records of 41. Of the total 92 cases, 86 were

females and 6 were males. Of the females 61 were married and 25 were single. Pregnancy was given as the starting point of the trouble in 33 cases, trauma in 10 and in 49 cases the cause was not known. Of these 49 cases 25 were married and 24 were single. The time spent in the hospital varied from fifteen to forty-five days. The average time was twenty-eight days. Seventeen cases had other operations beside the nephropexy done at the same time. There was sepsis in 8 cases. There were urinary symptoms in 22 cases. Of the total 92 cases we have called 28 relieved. Thirteen were not relieved. This leaves 51 from whom we have not heard.

I must say that I am not impressed by the reliability of the reports I have received from the patients as a means of determining how much good comes from operating upon movable kidney. Seventeen other operations were performed upon these patients at the same time as the nephropexy and it is impossible to determine how many of their symptoms were due to movable kidney and how many were due to some other cause, as appendicitis, cholelithiasis, endometritis, etc. Many were very nervous, and convalescence in some of those who now report the best results was often stormy and protracted to such an extent that one is led to question the benefit of the operation. As far as these statistics show anything it seems to me they make clear the fact that we must choose our operative cases very carefully.

Comparatively few of the cases who have movable kidney know it, and many of those who have been told, or have discovered it, have no symptoms in any way referable to the kidney. When there is intermittent hydronephrosis or stomach symptoms evidently referable to the mobility of the kidney something must be done. Even in some of these cases I am very apt to try a suitable supporter first. The condition is apt to be part of a general abdominal ptosis and fastening the kidneys may in no way remedy the trouble. Those seen in a large hospital are usually not able to take proper care of themselves afterward, and I dare say this is one reason why the showing is not better. I have had only seven cases in private practice where I have operated, but my own results would lead me to believe that in outside practice where one can choose one's cases for operation and for supporters more carefully and where one can be sure of a sufficiently long period of rest afterward the results are much better than in our hospital work.

RESULTS OF SURGICAL TREATMENT OF MOVABLE KIDNEY AT THE BOSTON CITY HOSPITAL.

BY PAUL THORNDIKE, M.D., AND L. R. G. CRANDON, M.D., BOSTON.

Frequency. — Out of 272 consecutive women examined by Larrabee[1] 41½%, or 112 cases, showed one or both kidneys to be palpable, and other observers, quoted by Larrabee, found from 46% to 80% to be palpable or even movable. Anatomical studies on the study have been many, and that a certain amount of mobility is normal must be acknowledged. Helm, in a study of 88 cadavers (61 male, 27 female), showed the following results:

	MALE		FEMALE		
	Right %	*Left* %	*Right* %	*Left* %	EXCURSION
Immovable,	42.6	37.7	22.2	18.5	0–1 cm.
Slightly movable,	21.3	21.3	29.6	44.4	1–3 ,,
Considerably movable,	27.9	34.4	29.6	25.9	3–5 ,,
Very movable,	8.2	6.6	18.5	11.1	5–8 ,,

Normal mobility has been further established in a study by Büdinger,[2] and by Watson.[3]

Pathology. — On the causes of this condition the recent monumental work of Wolkow and Delitzin[4] has covered apparently with great diligence the experimental side of the subject. They conclude that movable kidney is an anatomical physiological condition, which assumes a pathological type when the paravertebral renal fossa is insufficiently developed and the intra-abdominal pressure is reduced; that this pathological type is a feminine peculiarity; that prophylaxis will prevent mobility to a pathological degree.

The etiological factors recited by Watson (*loc. cit.*) are:

(1) Enteroptosis — a general sagging of abdominal viscera following relaxation of the abdominal wall, especially in multiparæ. The peritoneum in front of the kidney stretches downwards and a space is made in front and below, into which the kidney sags.

(2) Changes in the fascial and muscular supports of the kidney — changes which are part of a general systemic laxity of tissues.

(3) Sudden wasting of the perirenal fat.

(4) Increase in the size and weight of the kidney, from any cause. Hydronephrosis may, apparently, be a cause or an effect.

(5) Downward pressure on the kidney by an enlarged or by pleural effusions.

(6) Tight lacing.

Symptoms. — This division of the subject has been discussed more than any other. That even an abnormal mobility may lead to no symptoms, and that severe symptoms may appear with slight mobility of the kidney have been clearly shown. Besides painful renal crises (Dietl's), which are undoubtedly consequent on this condition there is an array of symptoms which may appear before the movable kidney is discovered, or may clearly follow discovery. These symptoms include the form of gastric indigestion known as "nervous dyspepsia" and also hypochondiasis or some other variety of the neurasthenic state. To determine whether the mobile kidney is a part of general enteroptosis, whether the symptoms described to it are only a part of neurasthenia or of the period of the climacteric, or whether the nephroptosis is primary is the first clear duty of the diagnostician, but that total and permanent relief of all such symptoms has

[1] Larrabee: BOSTON MED. AND SURG. JOUR., 1903, Vol. cxlix, p. 586.

[2] Büdinger: Ueber Wanderniere. Mittheil. aus d. Grenz. d. Med. u. Chir. Jena, 1899, iv, 265.

[3] Watson: BOSTON MED. AND SURG. JOUR., 1901, cxlv, 318.

[4] Wolkow und Delitzin: Die Wanderniere, experimentel-anatomische Studien, Berlin, 1899.

CASES OF NEPHRORRHAPHY AT THE BOSTON CITY HOSPITAL.

Sex.	Occupation.	Duration of Symptoms	Symptoms.	Physical Examination.	Anatomical Condition found at Operation.	Present Condition or Subsequent Notes. (November, 1904, unless otherwise stated.)
F.	Housewife	7 years	Beginning after confinement. Soreness in right hypochondrium. Noticed tumor. Melancholia at times.	Right kidney felt just below 10th rib. Can be held down by hand during respiration.	1½ inch with respiration.	Better than before operation, but not entirely relieved. Still has soreness in right hypochondrium and back. Cannot do hard work. Has to wear swathe. Hurts her if she lifts or reaches. General health much improved. Would not advise others to have operation.
F.	Bookbinder, sits down while working.	5 mos.	Pain in right hypochondrium aggravated by laughing or crying. Frequent and painful micturition.	Mass in right lumbar felt under ether. No anatomical cause for micturition.	Kidney seen moving with respiration.	"One hundred per cent better." Couldn't work more than two days at a time before operation. Now can work all the time. No pain in abdomen now, but pain across back on hard work. Feels much improved. Would have operation again under same circumstances. Has frequent and burning micturition now at intervals.
F.	Housewife. Since operation worked in bakeshop.	10 years	Pain in stomach, vomiting.	Stomach to umbilicus. Capacity 1080. Both kidneys palpable.	Kidney normal position, but tilted forward.	"Feels like new woman." Very much improved. Has now no pain in kidney. Has pain in back when she over-exerts herself or over-eats. Still has stomach trouble. Has distress p.c. unless she diets. Can do light work, as waiting in store, since trouble. Would go through operation again, and would strongly advise any one else in same condition to be operated on.
F.	Housewife	13 years	Pain in right side and "lower bowel," constantly increased by standing.	Mass smooth and movable. Can be found beneath ribs or pushed into pelvis.	Deep pressure required to bring kidney into view.	1898. Patient in M.G.H. Diag. Probable Tabes. 1902. Returned to M.O.P.D., B.C.H., complaining of abdominal pain which renders her unable to work. Probable recurrence.
F.	Housewife	5 years	Tumor at right costal border at times. Since birth of last child, six months ago, tumor has been "loose in abdomen."	Right kidney palpable and movable on palpation.	Kidney moved freely with diaphragm.	Operation gave complete relief. Was able to attend to household duties two days after leaving hospital, and has done her own work since. Last February (1904) was operated on for abdominal tumor, and since that time has imagined that she felt something "floating around inside" her abdomen. Would advise any other patient to have operation.
F.	Housewife	For some time. 5 years 12 years	Dragging sensation. Indigestion. Movable lump in right abdomen. Neurasthenic, indigestion, eructations, palpitation, soreness across abdomen.	Kidney felt just under anterior abdominal wall lower end on level with umbilicus, left border in median line. Can be pushed into normal place. Felt only with patient on left side. Not felt on back.	Not given.	For two years entire relief from indigestion and bad feeling inside. Since that time indigestion has returned and pain in front of abdomen. Consulted physician, who told her kidney had dropped down again some.
F.	Housewife	1 year	Pain in right hypochondrium intermittent; constant last two weeks.	Indefinite rounded mass in region of kidney, not moving on respiration.	Considerable excursion with respiration.	Since married and moved to Lawrence. Not seen, but said by family to have gained complete relief from operation.
F.	Housewife	5 wks.	General pains, followed by severe pain lower left abdomen. Icterus Pus temps.	Spleen enlarged. Mass in right lumbar not moving on respiration.	Excursion two inches with respiration. Kidney turned so that posterior surface found anterior, and greater convexity interval.	Former landlady says patient still has soreness and weakness in abdomen, and complains of "all gone feeling" in front where incision was first made. Also complains of soreness in back.
F.	Housewife	5 years	Attacks of vomiting with pain in hypochondria, three in five months; starts in right side and radiates through abdomen. Becomes unconscious every time she vomits. Urine dark brown to red with heavy red sediment. Urine normal and pains cease if she keeps quiet and lies down.	Kidney freely movable under ether.	Kidney freely movable.	Sept. 22, 1899. Much relief from nephrorraphy. Operation for gallstones Sept. 26 and discharged relieved Oct. 19, 1899. Second operation for gallstones. Discharged, dead, Aug. 16, 1900. No autopsy.
F.	Housewife	2 wks.	Pain in hypochondrium. Vomited everything eaten for four days. Pain was intense, confining her to bed. Felt soft movable body under right costal border.	Right kidney freely movable.	Kidney freely movable, falling into abdomen as far as median line unless raised by counter pressure on abdomen.	Sept. 12, 1898. Operated for gallstones. Perfectly well after operation for three and one-half months, when she had attack of gallstone colic and was operated as above and discharged. Relieved. No trace of her found.

followed fixation of the kidney is, without question, a surgical fact.

Diagnosis. — Attacks of renal colic with the presence of a somewhat tender, abnormally situated or movable kidney shaped mass, in the flank or abdomen makes the diagnosis probable. If in addition, a normal or occasionally bloody urine with quantitative variations, such as might appear with hydronephrosis, is found, the diagnosis is fixed. Abdominal percussion, gastric examinations, and the state of the abdominal wall will determine whether the kidney condition is part of a general enteroptosis. Gallstone colic has been frequently overlooked, and renal stone usually may be found by x-ray examination.

Treatment. — Uncomplicated mobile kidney, which is undoubtedly causing symptoms, calls for efforts at fixation.

Bands and pads we do not advocate. Such pressure as would be necessary, if long continued, must be harmful, leading to greater flabbiness of the abdomen and to injurious compression of the abdominal viscera.

The state of mind of the patient should be influenced to shut out all but objective influences. All possible effort should be made to improve the general health, and, in particular, the tone of the abdominal and back muscles. When these methods fail to relieve, the kidney should be mechanically fixed by operation.

Despite the frequency, already cited, of ren mobilis, the surgical treatment of this condition is relatively infrequent in large surgical clinics.

At the Boston City Hospital in the last ten years, out of a total of 16,589 operations, only 17 were for movable kidney. Ten of these cases will be briefly recited, merely because they present very accurate present notes on the patient's condition after periods of from one to seven years after operation.

Late results were collected by Watson (*loc. cit.*) as follows:

	Operator.	Cases.	Relieved.	Recurred.	Died.	Remarks.
Albarran	23	21				2 neurasthenics.
Herzberg	11	5	1		1	
La Fourcale	14	8	1	1	1	
Lavergne	14	2	6			
Tillmand	16	6		2		
Tricomi	32	23	1		2	
Tuffier	72	72?				Except those with 9 general enteroptosis
Wolf	21	11				
Watson	6	4		1		1 doubtful

Causes of Failure of the Operation. — Jacobson [5] is most lucid as to the causes of the failure of nephrorrhaphy to give the expected relief. He says:

(1) The operation is performed in unsuitable cases,

(*a*) Where the mobility of the kidney is only, in reality, a small part of the trouble, such as neurasthenia. It should be done in these cases only with the greatest caution. Even nephrectomy has failed to relieve such a case.

In dyspeptic, neurotic women approaching the menopause the operation should be avoided altogether.

In general, enteroptosis and the consequent dyspepsia or constipation or with uterine or ovarian trouble it will be useless to perform this operation unless the other affections are corrected.

(*b*) In a certain proportion of movable kidneys organic disease, cancer, tuberculosis, or hydronephrosis co-exists.

(2) Nephrorrhaphy frequently fails to give permanent relief because of insufficient fixation.

Technique of the Operation. — An oblique incision at least 4 inches long, beginning 1 inch below the twelfth rib and about 2½ inches from the spinus process, should be made, sweeping round towards the anterior superior spine. The latissimus, external and internal oblique are cut across. The last dorsal nerve should be avoided by drawing it aside, if possible. The lumbar fascia is slit; the perinephric fat is carefully torn open; the kidney is pushed into the wound; its capsule is split along the convexity from pole to pole; flaps of capsule are carefully stripped off the kidney halfway along the sides, and these flaps are sewed into the aponeurotic edges of the wound with many (12 to 20) silk stitches. The kidney itself is thus brought just under the wound, but not into it. This is the method of Jacobson, is the method we use and approve in most cases.

[5] Jacobson and Steward: Operations of Surgery, 1902, ii, 162.

SUMMARY.

From 40% to 80% of all women have a palpable or even movable kidney.

The *causes* of the condition seem to be lack of general muscular tone, anatomical peculiarities, or increase in the weight of the kidney, one or all.

The *symptoms* are — a sensation, subjective or objective, of a mass moving from the flank into the abdomen, crises of kidney-pain, a variety of nervous derangements from nervous dyspepsia to neurasthenia.

The *diagnosis* is made on the presence of the mobile tumor, the symptoms just given, and by ruling out kidney-stone, new growth, and gallstones.

The *treatment* should be first, mental; second, development of abdominal and back muscles; and last, if necessary, and no contra-indication exists, fixation of the kidney by operation.

The *prognosis*, after an operation, which is technically proper, is for perfect cure.

Clinical Department.

CICATRICIAL CONTRACTION OF THE HAND. TRANSPLANTATION OF ABDOMINAL FLAP. RELIEF.

BY JAMES S. STONE, M.D., BOSTON.

ON Dec. 16, 1902, C. McP. of New Brunswick had her right hand caught in a mangle. The felt roller passing on to the back of the hand pressed the palm down with a weight of 1,300 pounds against the hot